SERVED: April 10, 1995

NTSB Order No. EA-4341

UNITED STATES OF AMERICA
**NATIONAL TRANSPORTATION SAFETY BOARD**
WASHINGTON, D.C.

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD
at its office in Washington, D.C.
on the 27th day of March, 1995

| | |
|---|---|
| DAVID R. HINSON,<br>Administrator,<br>Federal Aviation Administration,<br><br>Complainant,<br><br>v.<br><br>RAFAEL JESUS ROMAN,<br><br>Respondent. | Docket SE-13135 |

**OPINION AND ORDER**

The Administrator has appealed from the oral initial decision issued by Administrative Law Judge William A. Pope, II on December 17, 1993, at the conclusion of the Administrator's case-in-chief, in which he found that the Administrator's evidence was insufficient to make out a prima facie case, and granted respondent's motion to dismiss.[1] As discussed below, we

[1] Attached is an excerpt from the hearing transcript containing the oral initial decision.

find that the Administrator introduced sufficient evidence, if unrebutted, to support the alleged violation. Accordingly, we grant the Administrator's appeal and remand this case for further proceedings.

The Administrator's order and complaint in this case sought to suspend respondent's airline transport pilot certificate for 60 days based on allegations that he violated 14 C.F.R. 91.13(a)[2] in connection with his landing of a Westwind Astra at the Ft. Lauderdale-Hollywood International Airport on April 19, 1992, in that he flew through wind shear conditions and landed too far down the runway, causing the aircraft to run off the end of the runway and sustain damage.[3] In his answer, respondent admitted flying through wind shear. However, he asserted that he

---

[2] Section 91.13(a) provides:

**§ 91.13 Careless or reckless operation.**

(a) *Aircraft operations for the purpose of air navigation*. No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.

[3] Specifically, the Administrator alleged that:

> 3. During the course of the above described flight [on April 19, 1992, landing at the Ft. Lauderdale airport], you flew in wind shear conditions.
>
> 4. During the course of the above described landing, you touched your aircraft down approximately 3/5 down runway 9 right with approximately 2100 feet of remaining runway when the aircraft needed at least 2500 feet of runway to make a successful landing.
>
> 5. As a result of your decision, the aircraft ran off the end of runway 9 right causing damage to the aircraft.

reasonably believed he touched down with sufficient runway to complete his landing and that the aircraft ran off the runway due to mechanical failure.

At the hearing, it was established that at the time of this incident it was raining, and there was a very large thunderstorm in the vicinity of the airport. The Administrator's evidence further showed that wind shear[4] alerts were given to respondent's aircraft as it approached for a landing, as well as to the aircraft that landed just ahead of respondent. Specifically, when clearing respondent to land, the air traffic controller told respondent "[N91FD] Fort Lauderdale tower runway niner left, *wind shear alert, center field wind two zero zero at one zero, west field boundary three two zero at two two*, cleared to land." (See Exhibit A-2, transcript of ATC transmissions, emphasis added.) Respondent acknowledged the transmission with "cleared niner right, [N91FD]." The controller immediately queried respondent regarding the obvious misunderstanding as to which runway he would be landing on (he was ultimately cleared to land on runway 9 right), but did not repeat the wind information, assuming that respondent had heard it the first time.[5]

---

[4] "Wind shear" was defined as a rapid change in wind speed or direction, occurring over a period of time or distance. The airport's wind shear alert system is triggered whenever there is a substantial difference between the winds measured at two or more locations on the airport.

[5] The Administrator also presented expert testimony that wind shear is common in the Ft. Lauderdale area under weather conditions such as these and, even without the ATC warning, a prudent pilot would have been aware that wind shear was likely to be a factor.

The Administrator's experts indicated that, for purposes of respondent's landing, the two wind velocities reported to him by the controller -- the 10-knot wind from the center field indicator and the 22-knot wind recorded at the west field boundary -- would translate into a 3-knot tail wind and a 14-knot tail wind, respectively. It is undisputed that the higher the tail wind, the more runway is required to stop the aircraft, and that anything beyond a 10-knot tail wind component exceeds this aircraft's operating limitations. The experts testified that the center field indicator is an average of several wind readings received from around the airport and that, therefore, despite the west field indicator's distance from the approach end of Runway 9 Right (5200 feet), that information (indicating a 14-knot tail wind component) would be the most pertinent to respondent's landing.

The tower controller and her supervisor, both of whom witnessed respondent's landing, testified that respondent's approach appeared to be much higher, steeper, and faster than normal. Indeed, the data block on the controller's radar scope indicated that respondent's aircraft was 800 feet above the ground as he neared the threshold of the runway. Both controllers observed respondent touch down more than halfway down the 5,276-foot runway, with approximately 2,200 feet of runway ahead of him. The Administrator established that landing distances required are normally calculated based on an approach altitude over the runway threshold of 50 feet, and a glide slope

prior to touchdown of 3 degrees. The Administrator's experts indicated that an increased glide slope is generally associated with increased air speed on touchdown, and that the higher the speed on touchdown, the more runway space is needed to stop. Respondent's glide slope was calculated to be 16 degrees, about five times too steep.

The tower controller testified that when she realized respondent was not going to go around -- as she had expected him to, based on his speed and the distance he had traveled down the runway -- she immediately reached for the "crash phone," which is used to call for emergency equipment. She testified that she knew respondent probably would not be able to stop before the end of the runway. According to a local law enforcement officer who interviewed respondent shortly after his plane ran off the runway, respondent told him that as his wheels touched down he felt wind shear forcing the plane upward, and as he forced the plane back down he could see he was running out of runway space so he locked the brakes and skidded to a stop.

In an effort to show that respondent should have known he would have insufficient runway space to complete a landing, the Administrator introduced extensive testimony related to a chart appearing in the aircraft flight manual titled "Unfactored Landing Distance From 50 Feet." (Exhibit A-5.) Various calculations were made based on varying assumptions as to tail wind (3-knot or 10-knot[6]) and runway condition (wet or dry).

[6] Although the winds recorded at the west field indicator

Although a great deal of time was spent discussing these calculations, it was generally recognized that this chart would not reveal how much runway respondent would have needed to safely complete the landing described by the Administrator's witnesses, since the chart is based on an approach 50 feet over the threshold of the runway, a 3-degree glide path, and no more than a 10-knot tail wind. The Administrator's evidence indicated that respondent exceeded all of these parameters and that each of them would further increase the landing distance required.

The most relevant calculation offered by the Administrator showed that, assuming a tail wind of 10 knots and a glide slope of 3 degrees, respondent would have needed 2,155 feet of runway after touching down on the runway. However, since the Administrator's evidence showed that respondent used a steeper glide slope (of 16 degrees), and was probably subject to a stronger tail wind (of up to 14 knots) -- both of which would have likely increased the landing distance required -- the Administrator argued that respondent obviously needed more than 2,155 feet and was careless to land with only 2,200 feet of runway remaining.[7]

(..continued)
would have produced a 14-knot tail wind, 10 knots is the maximum contemplated in the chart. Although no precise calculations could be performed for a 14-knot tail wind, it was agreed that it would increase the landing distance beyond that required for a 10-knot tail wind.

[7] We recognize that the Administrator's evidence did not conform exactly to the allegations in his complaint that respondent landed with only 2,100 feet of runway remaining when he required 2,500 feet. Rather, the evidence showed that respondent landed with approximately 2,200 feet of runway

At the conclusion of the Administrator's case in chief, respondent moved to dismiss the complaint, asserting that the Administrator had failed to present sufficient evidence of a violation. The law judge granted that motion, finding that the Administrator had not shown sufficient reliable evidence to support a finding of carelessness, in violation of section 91.13(a). (Tr. 538.) We disagree.

In his initial decision, the law judge stated that a landing in the wind conditions recorded at the west field indicator would clearly have been a violation. (Tr. 356.) However, he concluded that it was equally plausible that the center field indicator was most accurate, or that neither was accurate. (Tr. 538.) As the law judge understood the evidence, wind conditions reported to respondent from the center field indicator, showing a 3-knot tail wind component, were such that respondent would have had enough runway space after touching down to complete his landing. In this regard, the law judge apparently relied on one of the Administrator's expert's calculations showing that only 1,450 feet of ground roll would be required when landing with a 3-knot tail wind (assuming a dry runway and a 3-degree angle of descent).[8] He characterized the

(..continued)
remaining, and that the amount required could not be precisely calculated, but would have to be substantially in excess of 2,155. We do not consider these variations from the complaint to be fatal to the Administrator's case. His evidence clearly supported a conclusion that respondent landed with insufficient runway remaining.

[8] During the expert's testimony, the law judge questioned the expert himself to verify that respondent should have had

expert testimony that additional factors affecting respondent's speed would have lengthened the amount of runway needed to stop, as "conjecture," and held that such "speculative evidence" was insufficient to support a violation. The law judge concluded that the Administrator had not established that the actual wind conditions which existed at the time of respondent's landing should have alerted him that the landing was unsafe. (Tr. 539.)

In our judgment, the law judge's conclusions are at odds with competent evidence in the record supporting the Administrator's position that respondent landed so far down the runway that he should have known he would not be able to stop his aircraft before he ran out of runway. Regarding his rejection of the west field wind information, we note that the unrebutted evidence in the record indicates that -- although both readings would be of interest -- the most important reading for a pilot landing on this runway would be the one from the west field indicator. We are therefore puzzled by the law judge's apparent conclusion that respondent was entitled to rely solely on the center field reading (indicating only a 3- or 4-knot tail wind component), and totally discount the west field reading (indicating a 22-knot tail wind component).

It is also not clear why the law judge relied on calculations which did not take into account respondent's excessive angle of descent and other factors known to respondent

(..continued)
enough runway to stop under the circumstances outlined in his (the law judge's) hypothetical. (Tr. 468-9.)

which would have increased his landing speed (i.e., wind shear and a probable tail wind of 14 knots), and thus his stopping distance. Expert testimony regarding the effect that these factors would have on respondent's stopping distance was necessarily based on conjecture, because no published data exists for these extreme parameters. Thus, the speculative nature of this aspect of the Administrator's evidence does not represent a shortcoming in the Administrator's case.

In sum, we think the record as it now stands supports a conclusion that respondent ran off the runway because he landed too far down the runway, and that he should have known that he would not have sufficient space remaining to come to a stop. That respondent may also have had a mechanical failure on touchdown (discussed below), appears to have merely exacerbated what was already an unsafe landing.

The issues in this appeal have been somewhat clouded by the fact that one of respondent's witnesses was allowed to testify in support of respondent's defense, without objection from the Administrator, during the Administrator's case-in-chief. This witness -- Daniel Adams, director of maintenance for the aircraft repair facility which maintains the subject aircraft -- testified that his examination of the aircraft revealed that the anti-skid system had malfunctioned during this landing, causing the left wheel to lock up and the tire to blow. It was respondent's position that this anti-skid failure was the sole cause of his inability to stop the aircraft before the end of the runway.

Mr. Adams denied telling a representative of the aircraft manufacturer that the anti-skid system on this aircraft had malfunctioned before. The Administrator requested the opportunity to present rebuttal testimony which purportedly would have indicated that Mr. Adams did tell the representative of prior problems with this anti-skid system (apparently to show that respondent had reason to suspect his anti-skid system would not work), but the law judge stated he would defer ruling on the Administrator's request until after completion of respondent's case. (Tr. 208.)

The Administrator takes exception to the fact that he was not permitted to rebut Mr. Adams' testimony, maintaining that the law judge impermissibly considered it in granting the motion to dismiss. Indeed, the law judge found that there was no indication respondent should have known of any problem with the anti-skid system, and that respondent could therefore reasonably assume it was working (a proposition which the Administrator sought to rebut). (Tr. 537.) However, we are not convinced that this finding was significant to the law judge's decision. When the Administrator challenged his inability to rebut Mr. Adams' testimony, the law judge made clear that his "critical finding" in granting the motion to dismiss related to what he viewed as the Administrator's inadequate wind evidence.

In any event, because we find that the Administrator's evidence was adequate to present a prima facie case, this case must be remanded so that respondent can complete his response to

the Administrator's evidence. In addition, the Administrator should be given an appropriate opportunity to rebut respondent's evidence.

**ACCORDINGLY, IT IS ORDERED THAT:**

1. The Administrator's appeal is granted;

2. The initial decision is reversed; and

3. This case is remanded for further proceedings.

HALL, Chairman, FRANCIS, Vice Chairman, and HAMMERSCHMIDT, Member of the Board, concurred in the above opinion and order.